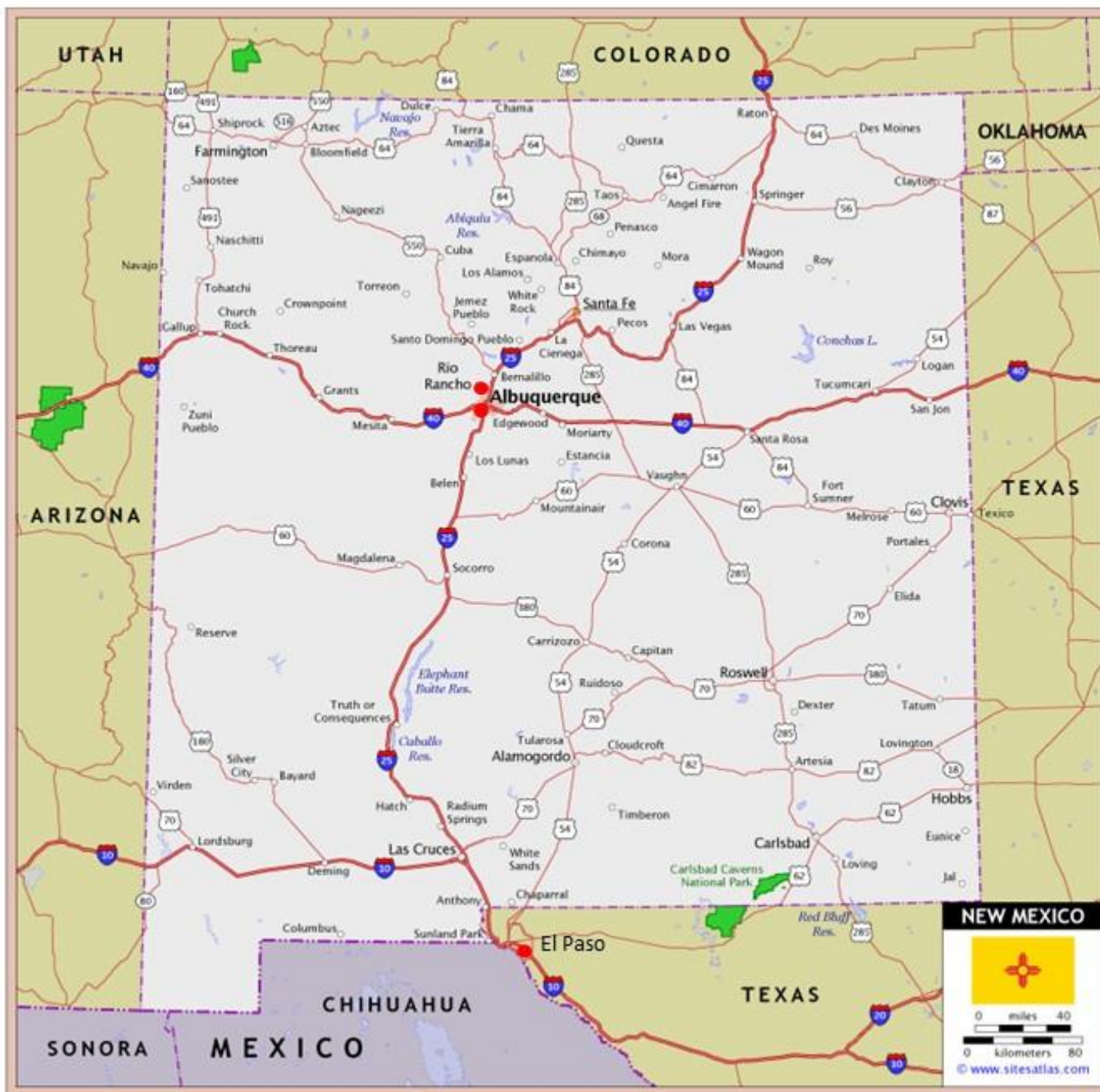




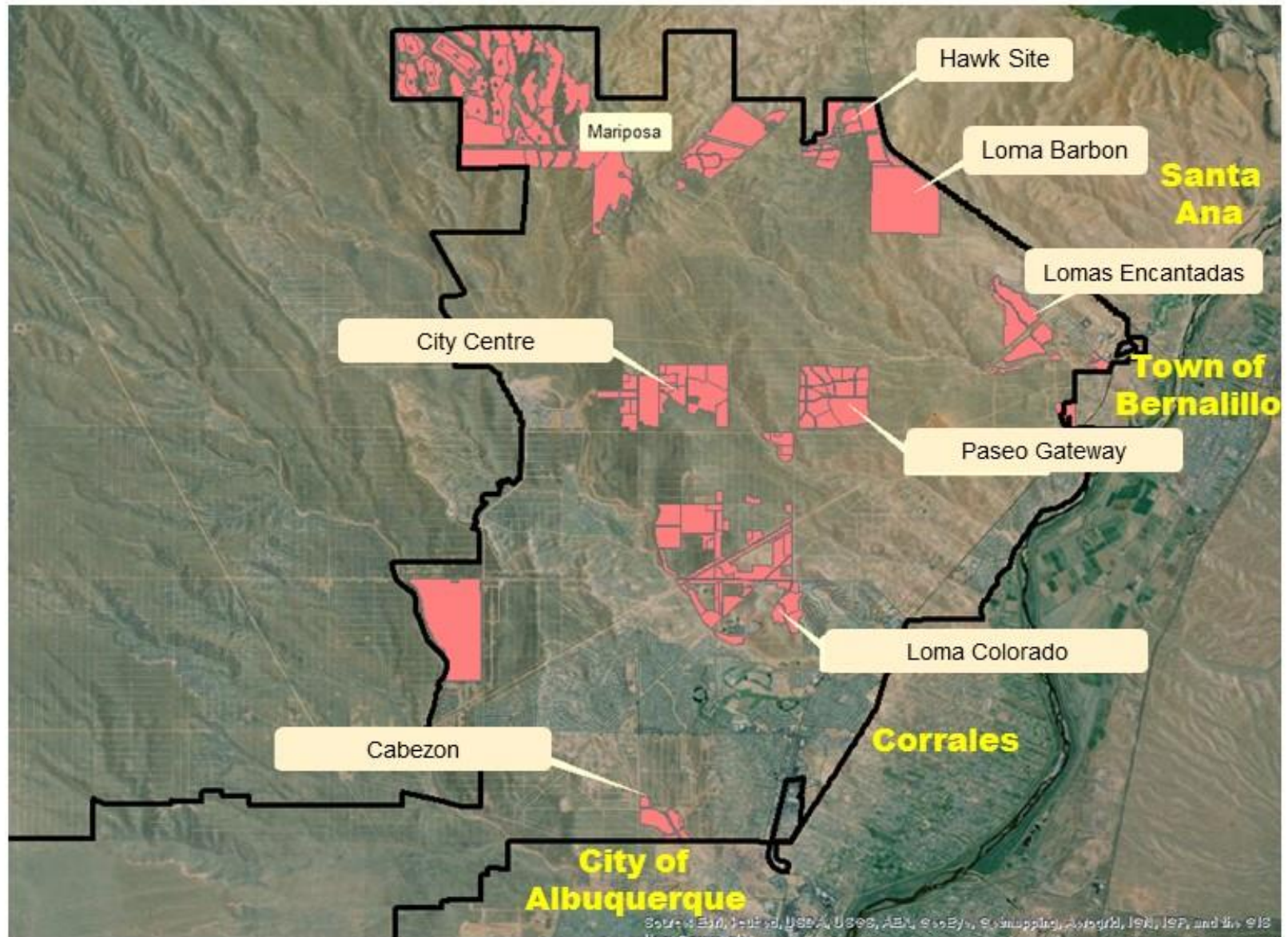
NEW MEXICO'S FIRST AQUIFER STORAGE AND RECOVERY PROJECT

JIM CHIASSON, P.E. – UTILITIES DIRECTOR
CITY OF RIO RANCHO





City Developments





City Statistics

- Founded in 1961
- Incorporated in 1981
- Population of just under 95,000
- Third largest city in the State
- Land Area of 103.4 square miles



Utility Customers

- Water Services (residential)= 33,056
- Water Services (Commercial) = 711
- Effluent Reuse = 17
- Fill Station = 236
- Wastewater Services = 29,766



WASTEWATER

- 4 Wastewater Treatment Plants
 - 2 Membrane Biological Reactors (MBRs)
 - 2 Activated Sludge Treatment Facilities
 - Total Treatment Capacity of 8.2 MGD
- 26 Lift Stations
 - Capacities of 55 GPM to 11,530 GPM





WATER PRODUCTION

Rio Rancho gets all its water from groundwater sources!

- 17 wells – total capacity of 23,170 GPM
- 18 storage tanks – total capacity of 42,250,000 gallons



Well 6 Production, Arsenic Treatment and Booster Station



WATER PRODUCTION

- 10 Arsenic Treatment Facilities
 - 2 processes: Adsorption and flocculation filtration
 - Reverse Osmosis (RO) to remove dissolved solids
- 9 Booster Pumping Stations
- 578 miles of Transmission and Distribution lines





Current Water Rights Situation

- 2 Current OSE Permits – 1979 & 2003
- 12,000 ac-ft/yr maximum per permit.
- City is obligated to acquire 728 ac-ft of water rights every 5 years.
- The City has met this requirement up through 2032 (16,000 ac-ft liability remains thru 2063).
- The combination of return flow credits and acquired water rights is currently almost twice the required amount mandated by the OSE permits.



What are the Best Methods to Save/Extend Water Source?

- Conservation/Water Efficiency
- Recycle/Reuse



WATER CONSERVATION PROGRAMS

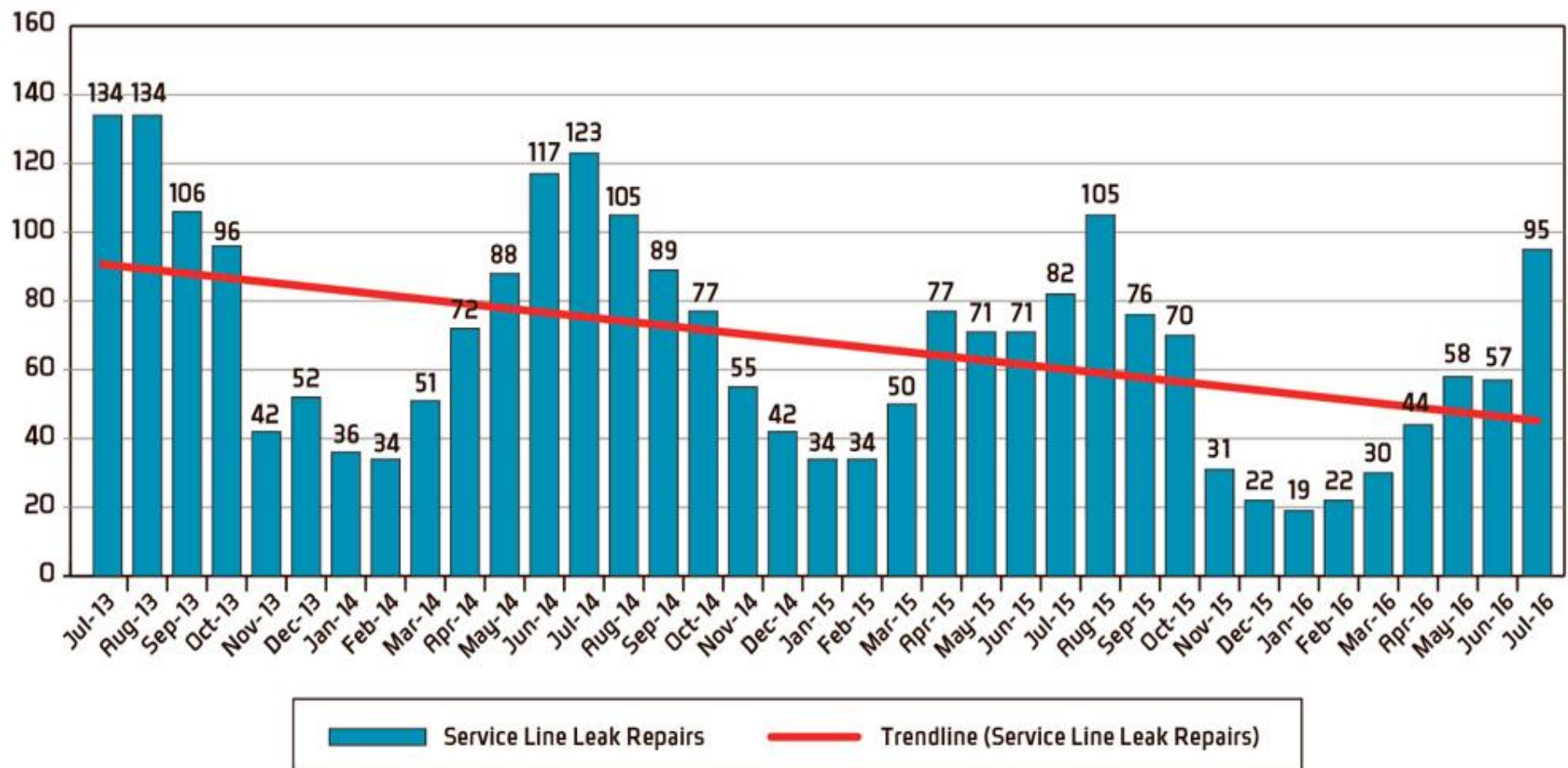
- Rebates
- Water Audits
- Service Line Replacements
- Education and Outreach
- Meter Testing



Children's Water Festival - 2012

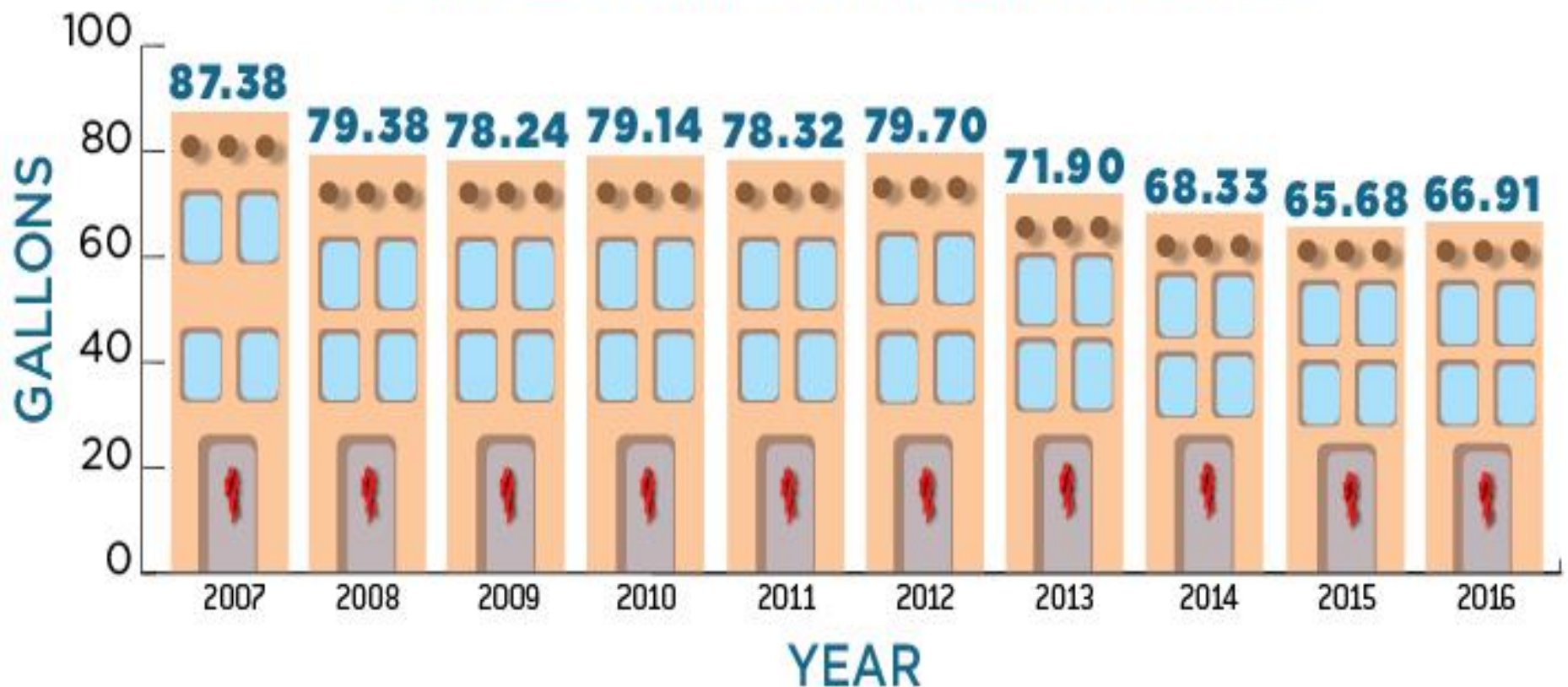


Service Line Leak Repairs FY2014-Current





SINGLE FAMILY RESIDENTIAL GPCD





Water Reuse Programs

➤ Reuse (Purple Pipe) Program

- 17 Customers using 550+ ac-ft/yr of recycled WW

➤ Aquifer Re-Injection Project

- Treat WW at MBR Plant #6 (Cabezon)
- Advanced Treatment and Inject up to 1MGD into the Aquifer at Well #10 Injection Site.



ASR Project Timeline

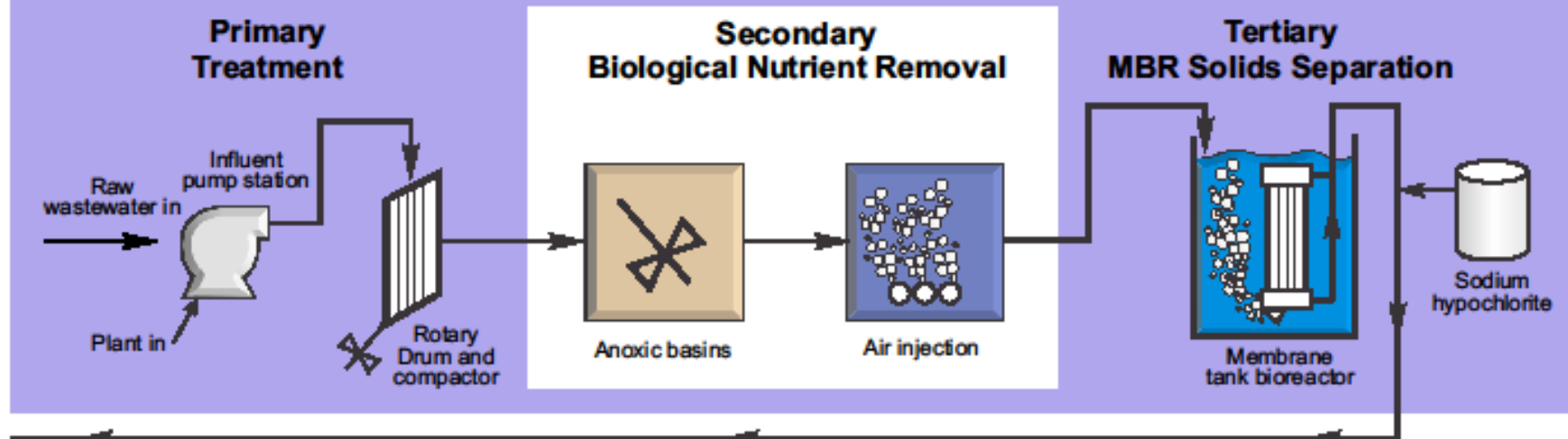
- 2001 – City's Governing Body Approves Water Reuse Strategy that includes Effluent Reuse and ASR.
- 2002 – Citizen's Committee formed to develop Goals and Objectives for water reuse management.
- 2004 – Final Water Reuse Plan is Approved and Adopted by the Utilities Commission.
- 2006 – MBR Facilities at Cabezon and Mariposa are constructed.
- 2007 - Pilot Study for the ASR Project begins including modeling work.



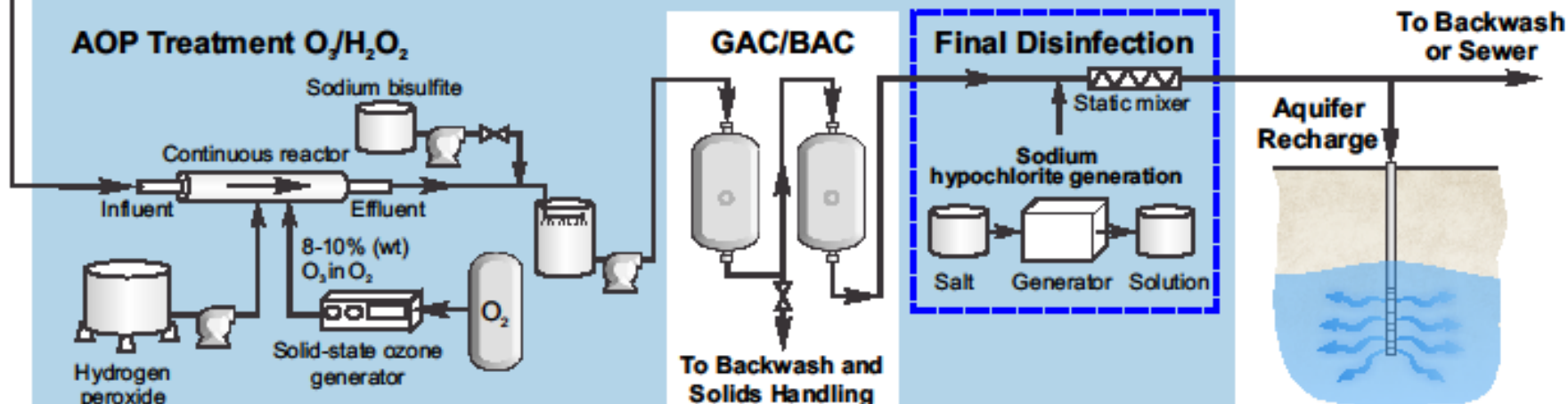
ASR Timeline (Cont.)

- 2008 – Application for the ASR Approved by the State.
- 2010 – 16-inch Injection well is drilled to 1700' below grade along with 5 monitoring wells.
- 2011 – On-site Pilot Study includes pumping and monitoring of potable water into the Aquifer over a 30-day period.
- 2012-14 – 18" reuse water lines are installed from Cabezon MBR plant to the Injection and irrigation sites.
- 2016-17 – 2MGD Injection site storage tank and AWTF is constructed and tested.

Cabezon Water Reclamation Facility



Advanced Water Treatment Facility





Monitoring Requirements

- **AWTF**
 - TOC and TN 12x/year
 - ECOLI 52x/year
 - MSES (96 constituents) 4x/year
 - Trace Organics (83 constituents) 1x/year
- **Monitoring Wells**
 - MSES @ 3 wells 3x/year
 - Subset @ 3 wells 3x/year and 5 wells @ 1x/year
 - TOC and TN @ 5 wells 1x/year
 - Trace Organics @ 5wells 1x/year
- **Sampling costs approximately \$75,000/year**
- **After initial two year period, City can request a reduction in constituent list and sampling period.**



Project Costs

1. Planning/Permits = \$800,000
2. Engineering/Design = \$980,000
3. Recycled Water Booster Station and Tank = \$5.8M
4. Recycled Water Transmission lines = \$3.125M
5. Concrete Holding Tank = \$2.32M
6. AWWTF Plant = \$3.9M
7. Injection Well = \$912,000
8. Site Property/Easements = \$4.2M

Total = \$22+M





WATER COMPLEX
CITY OF MID-RANCHO













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QUESTIONS?